

association of double otorrhœa is remarkable and interesting in his case.

DR. PUTNAM.—I recognize perfectly well that in the absence of a post-mortem examination of the entire body, the possible, perhaps probable, justice of Dr. Spitzka's criticism. I have seen a patient, however, who had a tumor of the brain, lasting many years, and eventually disorganizing both sides of the brain, who presented for a long time absolutely no symptoms except pain and numbness of one wrist, not following the course of any particular nerve. In the case reported, the pain was in the two middle fingers, and unless I am mistaken, peripheral pains, not occurring in the course of single nerves, and yet not segmented, are among the symptoms of cerebral disease.

(To be continued.)

Editorial Notes and Miscellany.

At the last meeting of the German Medical Congress, Professors Nothnagel and Naunyn made a report upon the present state of the question of cortical localization which deserves more than a passing notice. The report is in many respects an interesting one, and an additional one need not be looked for for many years to come.

The most important conclusion at which Nothnagel arrives is, that, as far as *human pathology* is concerned, cortical localization is a settled fact. He refrains from expressing any opinion regarding the conflicting views of physiologists. But Nothnagel is not willing to accept the ordinary views regarding psycho-motor centres, for he shows that a patient can be possessed of the intention of performing a movement without actually being able to perform it. In other words, that the memories of previous movements are not necessarily stored in the same cells from which definite movements are started. Applying the same argument to the visual centres, Nothnagel claims that a person may become totally blind from the destruction of both so-called visual centres, but that he may still retain the memories of former visual impressions. Such terms as psycho-motor centres should therefore be dropped. The most that can therefore be said of a centre—of a motor centre, to

instance—is that it is a special area which must be uninjured, if certain movements are to be performed properly ; but that the motor impulse itself may originate elsewhere in the cortex.

Nothnagel gives a very complete summary of the various forms of visual disturbance that may be due to cortical lesions : he agrees with Seguin in relegating the actual visual centre to the *cuneus*, but he would wish to include with it the first occipital convolution. In the remaining portions of the occipital lobe, the mass of visual memories is housed ; as for the motor centres, these are situated in the central convolutions and the paracentral lobule, but possibly the "frontal" portions of the parietal convolutions may have something to do with motion. There is some reason to think that the muscular sense is dependent upon the parietal lobes. Nothnagel is not willing to risk any positive statements regarding sensory localization in the cortex. Many other questions are discussed ; the paper is undoubtedly the most masterly summary that has yet been presented on this vexed subject.

Prof. Naunyn treats of the subject of cortical localization with special reference to aphasia ; he has examined the literature very carefully (he has not apparently had access to American literature), and has noted the lesions found in these cases upon a chart of the brain.

As a result of this study, he finds that there are three distinct sets of lesions in the various forms of aphasia.

The first set is confined chiefly to Broca's convolution (pure motor aphasia) ; the second set to the posterior two-thirds of the first temporal convolution (aphasia with word-deafness) ; the third set to the transition from the angular gyrus to the occipital lobe (aphasia with word-blindness). This proves conclusively that, as the present writer has long since been in the habit of teaching, instead of there being any *one* speech centre, widely different parts of the cortex subserve the functions of language. The amount of information which Prof. Naunyn has been able to condense into the short resumé is quite astounding.